INDIA p.42

CHINA p.52

SPECIAL REPORT

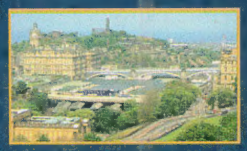
INTERNA

They speak different languages, but venture capitalists in India, China, Singapore, Ireland, and Scotland have one goal: to participate in the high-tech world by putting into place a system that encourages and nurtures entrepreneurs and the fruition of their ideas. Starting from the ground up, in most cases, these fledgling VC firms face a slew of obstacles. For some, that may include few resources, little or no infrastructure to speak of, startups scrambling to articulate their business strategies, and, most prominently, cultural inhibition to risk taking and the dizzying speed and complexity of global markets.

While India's government is reforming its regulations to make the country amenable to competing on a level playing field with major international high-tech companies, VCs in China, Singapore, and Scotland share the distinction of having their respective governments take a hands-on role in trying to jump-start VC activity. For Ireland, which has already built up its economy, the main focus is trying to move up the value

SINGAPORE p.60

IRELAND p.68



SCOTLAND p.72

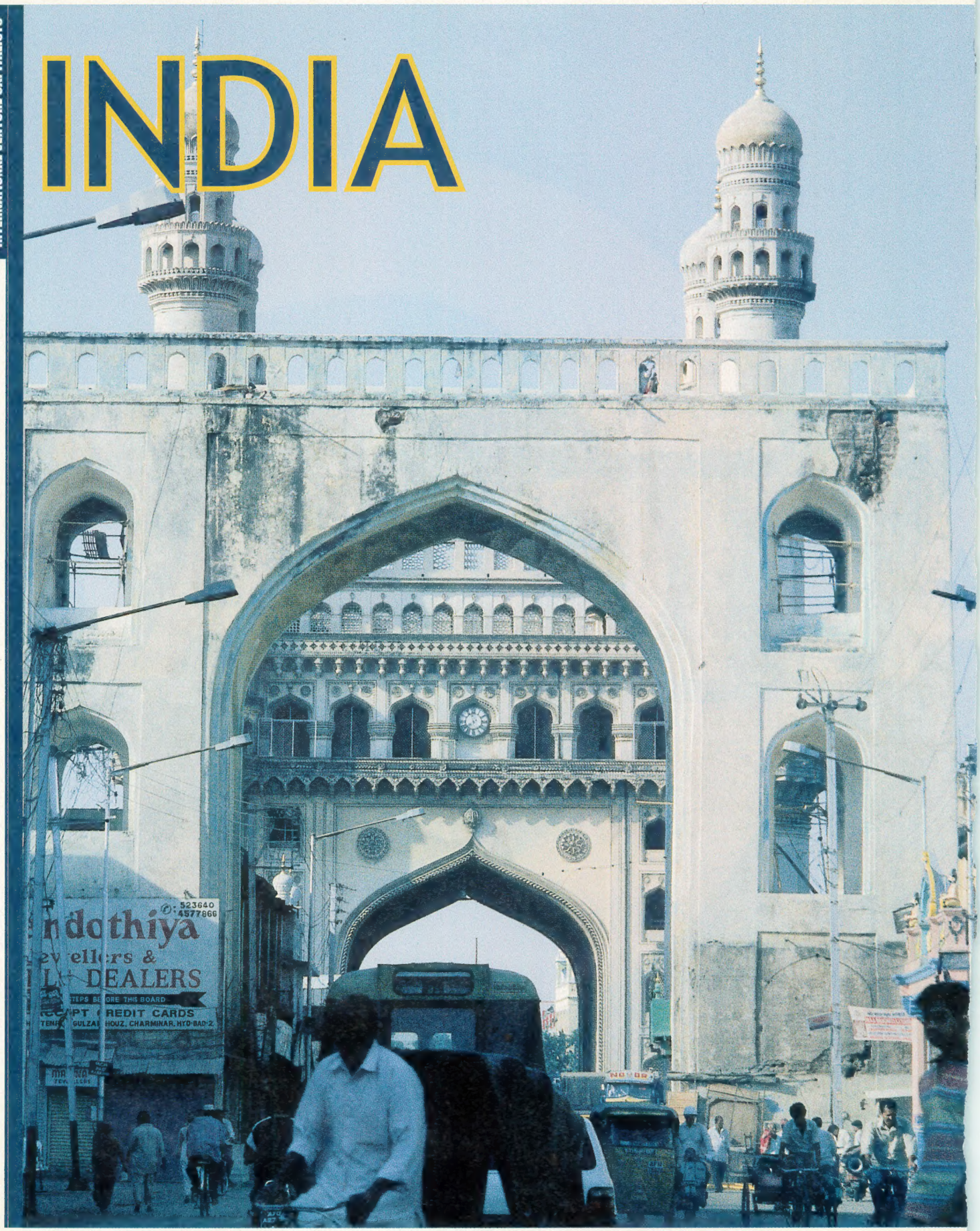
C ATIONAL

chain of high-tech jobs and companies through its VC efforts.

The realization of the enormous potential for, and pursuit of, instant wealth is another thing that the VCs from these five countries have in common. As they negotiate past inherent barriers, establish the groundwork for standard VC business practices, and look to the successes of more mature VCs in other parts of the world, these countries are loudly proclaiming: We have the financial capital, the highly skilled workers, and the opportunities and ambition to join the global economy.

In this special report, UPSIDE takes a look at the driving forces behind these VC communities and how they are faring in their race to expand their business and technology capabilities.

INDIA


523640
4577866
ndothiya
ev ellers &
L DEALERS
TEPS BEFORE THIS BOARD
PT CREDIT CARDS
HOUZ, CHARMINAR, HYD-BAD-2

THE NEW INDIA OF HIGH-TECH COMPANIES AND INVESTORS IS TRYING TO OVERCOME ITS OLD WORLD IMAGE.

by Michael J. Ybarra

photographs by Michael J. Ybarra

In 1993, a software company in Bangalore, called Infosys, was getting ready to sell shares to the public on the Bombay Stock Exchange, but potential investors in the IPO balked at the cost. "The price was a little expensive," says one of the offering's underwriters. So the founders had to buy some of the company's own issue. In November 1993, the stock was trading at four times its offering price, and, six years after that, Infosys became the first Indian technology concern to list on the Nasdaq—an event that helped create hundreds of paper millionaires at Infosys.

Today, Infosys is one of the largest software firms in the country. A $414 million company that, even in a down market, expects to grow 30 percent a year, Infosys is a symbol of the entrepreneurial monsoon that is sweeping across the subcontinent and creating a new India. The making of Infosys, however, is very much a story of the old India—a personal investment of a few hundred dollars by the company's founders in 1981. "We had to use our savings and bootstrap from our profits," says Nandan Nilekani, president, managing director, and COO of Infosys.

That's no longer the case. Five years ago, most international venture capitalists couldn't find Bangalore on a map. Last year, VCs invested $1.1 billion in India (instead of an estimated $5.6 billion), about one-fourth of which went to Bangalore, a tech-crazed metropolis of over 6 million people that is the fastest-growing city in Asia. "There's been a massive explosion of entrepreneurs in India," says Vijay Angadi, managing director at ICF Ventures in Bangalore.

Not to mention VCs. This year, the Indian Venture Capital Association expects risk capital to hit $2 billion, while the National Association of Software and Service Companies (Nasscom) predicts that venture investing in the world's second-largest country could reach $10 billion a year by 2008.

"India is possibly the best place to get money anywhere in the world," beams Ashok Soota, chairman and CEO of MindTree Consulting, a Bangalore-based consulting company that picked up $9.5 million in funding in 1999. "Suddenly, capital has become available. People in the U.S. looking for deals? I tell them to come to India."

Still, venture activity significantly trails the explosion in India's software industry. In a decade, the software industry has zoomed from $164 million in exports to $6.2 billion in exports last year, according to Nasscom. And the industry is striving to hit $50 billion in exports by 2008.

The reason is simple: India is the second-largest English-speaking country in the world, and its schools produce 200,000 engineers a year who work for a third—or less—of what their Western counterparts earn. Silicon Valley has long been aware of this fact, which explains why almost half of the computer professionals admitted to the United States under the H-1B visa program come from India (versus 10 percent from China, the next biggest source of IT labor).

"India's business model is arbitrage," explains Pradeep Kar, founder, chairman, and managing director of Microland Group in Bangalore. "Sell in dollars; pay in rupees."

Under the Banyan Tree

The Bombay Stock Exchange was founded in the 19th century under a banyan tree where traders gathered to sell shares. The surrounding city has since changed its name to Mumbai, but the banyan tree still stands. Its position in the heart of the country's financial capital is something of a metaphor for the hurtling rush into the future that India is experiencing.

The banyan tree spreads its shade over a lovely park in Horniman Circle. Inside an iron fence, the park is an oasis of calm amid the chaos found in every Indian city. Children gambol in their Sunday best, well-scrubbed families sit on the lawn or gaze at a placid pond, and no one disobeys the long list of posted rules: no kite flying, music playing, or fire making.

Just on the other side of the fence, however, the real India presses up against the park. Entire families live on the street surrounding the park. Their clothes hang on the fence; their cooking fires blaze on the sidewalk. Some sleep on scraps of cardboard, while others just curl up on the concrete. In the morning, they bathe in the open using pots of water fetched from a pump near the park's gate.

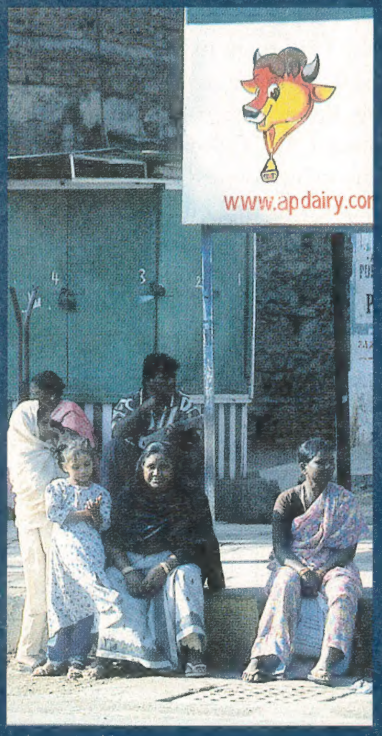
This glaring contrast illustrates India's unlikely aspiration to become a tech giant. A third of the world's poorest people live in India, and 4 out of 10 Indians are illiterate. A third of the

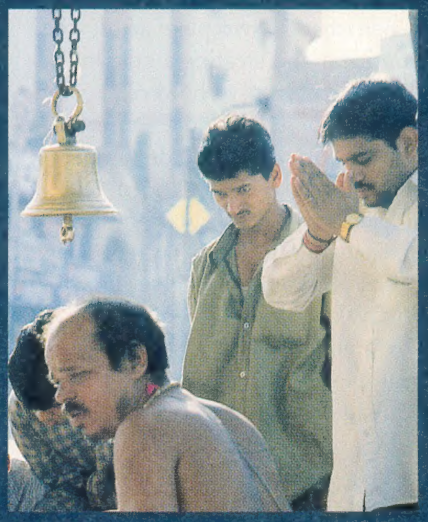
population doesn't even have access to safe drinking water. India's infrastructure is terrible; its power interruptions are legion. Only 3 out of 100 people have phones and 5 out of 1,000 have computers. Cell phones are a fraction of fixed lines. Out of a population of 1 billion, there are a couple of million Internet subscribers.

And yet, the last decade has also witnessed the birth of a new India. The old India was born in 1947, when Prime Minister Jawaharlal Nehru vowed to create a humane society where the government would command the economy for the good of all instead of an economy that commanded the government for the enrichment of a few. The unintended result was 40 years of socialism that walled off India from the world economy and left the country an economic basket case while east Asian nations raced ahead.

India's turnaround began in 1991 when Rajiv Gandhi was assassinated and Narasimha Rao, a bland 70-year-old cabinet member on the verge of retirement, became prime minister. For years, the government had micromanaged industry, hobbled imports with prohibitive duties, and kept the currency inflated like a balloon. Rao scrapped import controls, devalued the currency by 20 percent, and virtually abolished the License Raj system that dictated to companies what they could make and what they could charge. Growth, which had stumbled along at less than 1 percent for decades, shot up to 7.5 percent a year. Inflation fell by more than half. Over the next decade, the middle class tripled, although it still includes fewer than one in five Indians.

No sector prospered more than technology. In the fiscal year that ended in March 2001, India exported $6.2 billion in software. This year, even with forecasts trimmed because of the global slowdown, Indian companies are expecting to ship





(Top to bottom) Outside the gates of Bangalore's Electronics City, capitalism goes on in the streets much as it has for centuries. Workers use Iron Age tools to bring Silicon-era technology to India. Dot-com advertising coexists with traditional society.

Don't panic. It's just something called great service.

money management

insurance & investments*

online brokerage*

education center

financial seminars

loans of all types

credit cards

savings & checking accounts

online home banking

nationwide ATM access

Serving the greater Bay Area.
Call or visit us online for details.

NCUA ASI American Share Insurance EQUAL HOUSING LENDER

*Some insurance and investment products and online brokerage are offered through MEMBERS Financial Services,® are not federally insured and involve risk of loss of principal.

We're licensed to meet your financial needs.

For great service, all the signs point to Meriwest. The financial institution that combines the personal service of a credit union with the full services of a bank. In person, by phone or online. In fact, whatever works for you, works for us.

As your financial partner, we proactively anticipate your needs and help guide your financial future. So step to the front of the line and face up to being treated like you're the only customer in the world. After all, somebody has to do it.

Call toll free at
1.877.MERIWEST
www.meriwest.com

MERIWEST℠ CREDIT UNION

It's where the smart money goes, and has for years.℠

$8.5 billion in software.

Then the worldwide Internet mania hit India. In November 1999, Satyam Infoway (Sify), a majority-owned subsidiary of Satyam Computer Services, spent $125 million to buy IndiaWorld Communications, a portal, which set off an investment frenzy. According to Nasscom, in the Internet annus mirabilis of 1999, more than 10,000 dot-coms were launched in India. Ravi Ramachandran, president and CEO of TAIB Capital, says he saw 95 business plans last year. By February 2000, the market capitalization of tech stocks on Indian exchanges had swelled to $95 billion.

It didn't last. The market crashed, and, by the end of last year, $55 billion had disappeared from India's exchanges. "Indian VCs and investors have lost from $500 million to $1 billion in the last 18 months," notes ICF's Angadi. "A lot of firms probably lost every investment they made. We decided not to throw money at the Internet. We don't have to prove we're VCs by writing a check every day. The money we take out is more important than what we put in."

Returning Indians find something that didn't exist in India before: venture capital.

Taking Risks

On the last day of December, Srini Rajam quit his job at Texas Instruments in Bangalore, where he had worked for 15 years—the last six as managing director for the company's India operations. Six of his colleagues walked out with him, and, the next month, they started a company called Ittiam Systems (deriving the name from Descartes' "I think, therefore I am"), which designs digital signal processing systems, the stuff that turns data into voice in cell phones and other devices. A month after forming the company, Rajam signed a term sheet for $5 million in funding from Global Technology Ventures. Ten days later, he signed up some customers. In April, the company shipped the first version of a software product to a Silicon Valley client.

"Experienced people have the confidence to take risks," he says. "This would not have happened here three years ago. The environment has changed. My dad advised me to become a teacher, to share my knowledge. These days, parents tell their children to found software companies."

Ittiam is one of the new breed of Indian companies trying to climb into the higher reaches of the technology business. About 90 percent of Indian tech companies live in the low-margin service sector, writing code for other companies instead of developing products or applications themselves. ICF's Angadi says that there are only about 50 companies in India actually building businesses on intellectual property. "This is the era for Indian technology," Rajam says.

After years of a brain drain to the United States, where, by some estimates, Indian engineers started almost a third of the companies in Silicon Valley, Indian entrepreneurs are returning home to found their own businesses. "The last time I was in the Valley, people said, 'B-to-B is back-to-Bangalore, and B-to-C is back-to-Chennai,'" says Microland's Kar.

And returning Indians are finding something that didn't exist in India before: venture capital. The Indian VC business only dates back to about 1988, when the Technology Development & Information Company of India was founded in Bangalore. That fund grew into ICICI Ventures, a subsidiary of a major Mumbai financial-services concern, which today manages about $250 million in risk capital.

But the Indian government has only welcomed foreign private-equity investors for about five years. William Draper's $55 million Draper International fund was the first Silicon Valley VC firm to set up shop in Bangalore.

When the Indian Venture Capital Association formed in 1993, six of its nine members were public-sector efforts. Last year, the association had 56 members, but most VCs operating in India are actually registered in Mauritius to avoid Delhi's still-onerous regulations and taxes.

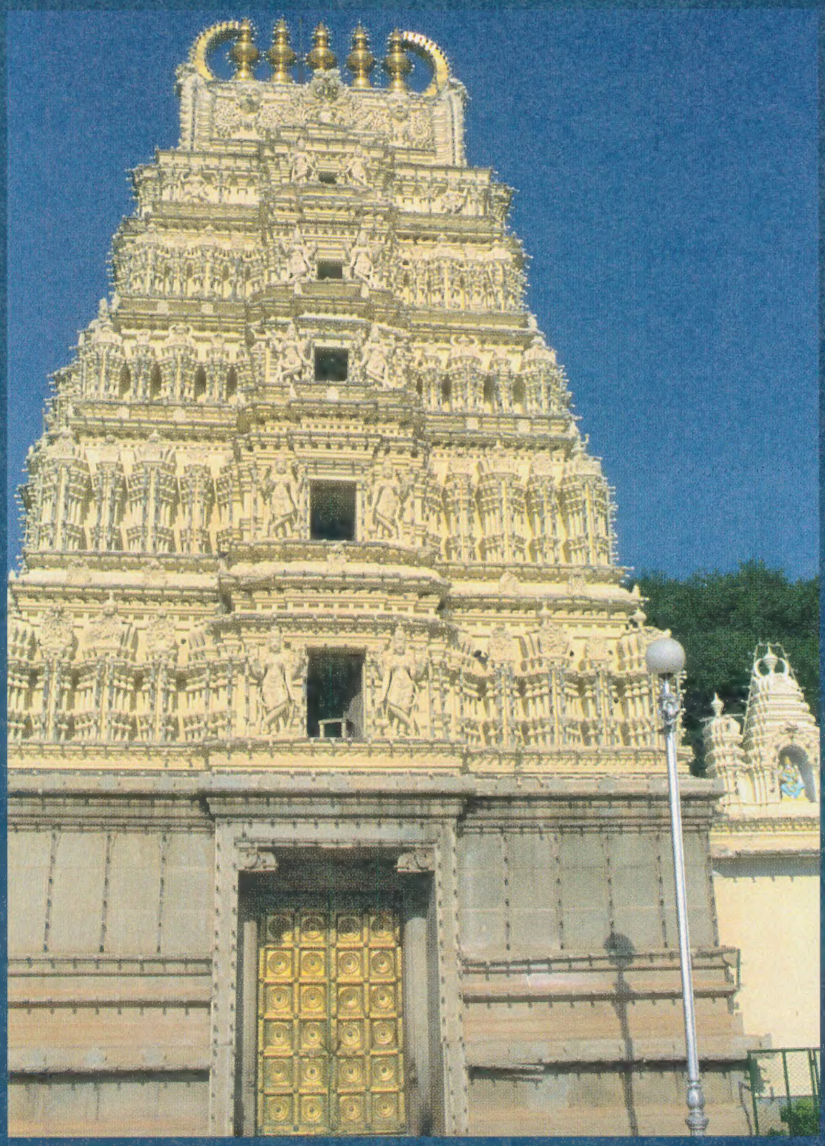
And, while many VCs see enormous potential in India, the deals are of a different magnitude than what one would find in the United States. "The classical VC game is absent in India," says Ganapathy Subramanian, director of Jumpstartup, a $45 million fund that was started last year. "You can't make 50 percent to 100 percent returns. I haven't come across any potential investments in that range. The service-sector upsides are not going to be significant. We're not going to find the next Oracle, FedEx, or Siebel Systems in India. The scale is different here. India has only a few dozen companies with $100 million-plus market caps."

ICF Ventures, another Bangalore outfit, has a $20 million fund focused on southern India, with about two-thirds of its money targeted at technology and the rest going to local opportunities. Its nontech investments include Explocity, a company that publishes free city guides in India, and Oyzterbay, a jewelry retailer.

Honesty,
integrity and Yahoo! Bill Pay.
These things will keep you
out of trouble.
Get online bills, monthly reminders
and automatic payments
on recurring bills. Then you'll
be primed for success.
Oh yeah, be a nice person, too.
finance.yahoo.com

Yahoo! Bill Pay

Do You Yahoo!?



(Top) A Hindu temple in Mysore, a city now vying for the overflow of India's technology boom. (Bottom) For many in India, where access to water and power is a luxury, billboards are more useful for the shade they provide than for what they sell.

"The jewelry space is crying out for this," ICF's Angadi says. "Besides technology, India is probably like the U.S. in the 1920s or 1930s. There's a lot of potential for huge companies of all kinds to be built."

Sudhir Sethi, a director at Walden International, agrees. This Palo Alto, Calif.–based $1 billion fund opened an Indian office in 1998, looking for early-stage investments.

For example, it put $2.3 million into Webdunia, an Indore-based company whose software translates English into 11 different Indian languages for customers such as Yahoo and Terra Lycos. "I can actually write in English and send a letter in Hindi to my parents," Sethi says. "The Internet in India won't grow big until the Indian-language Internet comes."

Still, Sethi believes that the biggest opportunities will be for companies that leverage India's low-cost technology expertise for international markets. "We look at Indian companies based in the U.S. and U.S. companies based in India," Sethi says. "We grow companies on a cross-border basis. We're global, but with strong local connections. Most Indian companies have cross-border processes; most U.S. companies don't know how to do that. The key issue is: Is the market big enough? About 60 percent of anything in the world happens in the U.S., so you pretty much have to go there."

Making Money

Every May, 100,000 students take the common entrance test for all medical, dental, and engineering schools in the state of Karnātaka, of which Bangalore is the capital city. Only a quarter of those taking the test will find a place in a professional school. "Earlier, people wanted to be doctors," says E.V. Ramana Reddy, director of information technology for the state of Karnātaka. "These days, everyone wants to be an IT engineer."

Karnātaka, where about 5 percent of the country's population resides, also claims 15 percent of India's college graduates.

The state was the first in the nation to encourage the growth of private colleges half a century ago, and, today, only 2 out of 82 institutions of higher education in the state are public.

Bangalore was founded in the 16th century. In 1831, the British moved their regional administrative headquarters to the city and built a cantonment for their troops. The prestigious Indian Institute of Science was established there in 1909. After achieving its independence, India made Bangalore the capital of the state of Karnātaka and designated the city a center of aerospace and defense research. But, for years, temperate Bangalore was better-known for its retirees than it was for its cutting-edge technology.

Increasingly, companies were also drawn to the city. For instance, in 1983, Infosys moved its headquarters from Pune to Bangalore. "If you wanted to build a world-class company, Bangalore was the place people would come," says Infosys President Nilekani. "The strength of Bangalore is its huge resource pool and the fact that people all over India are willing to relocate here. Bangalore still has the best quality of life of any city in India."

In 1985, Texas Instruments opened its India operation; other multinationals followed. TI is presently located in a 120,000-square-foot facility in Bangalore.

A decade ago, there were 13 tech companies in Bangalore; now there are more than 900 (although many exist only on paper). Last year, 165 companies came to Bangalore; almost 40 percent were foreign. In 1997, for the first time, India shipped more than $1 billion in software. Last year, Bangalore alone produced that much.

"Half the VC money in India goes to Bangalore," notes B.V. Naidu, the director of Software Technology Parks of India (STPI). "Whenever a startup is founded in the United States, it's advised to put software development in Bangalore."

Suddenly, the Garden City had become the Silicon Valley of India.

"The Internet in India won't grow big until the Indian-language Net comes."

The population exploded, from less than 800,000 in 1951 to 4 million in 1991, to more than 6 million today. Bangalore is now the fifth-largest city in India. The young and bright of India once gravitated to the civil services for lifetime job security; now they come to Bangalore to take a chance.

This Isn't India

It's a typical shocking subcontinental juxtaposition: All around Bangalore, the streets are being torn up to lay fiber optic conduits, but the trenches are being dug by women in brightly colored saris poking sharpened steel sticks into the red earth and skinny men in rags who barely seem able to swing a pickax. Next year, Bangalore is finally supposed to be connected to an undersea fiber cable. Silicon-era technology might be coming to India, but it is arriving via the sweat of workers using the tools of the Iron Age.

When the Indian government decided to encourage the software industry in the early 1990s, it had to face the reality that its infrastructure was awful. In 1991, the Ministry of Information Technology created STPI as a one-stop shop where foreign companies could get permits, corporate tax exemptions, and telecommunications hookups. In 1992, STPI began connecting Bangalore to the rest of the world.

STPI took over a modest building in Electronics City, a languishing industrial park outside of Bangalore that was built in the 1970s for hardware companies that never came. From a nearby blue trailer with a single satellite dish—it looked like a mobile home with cable—STPI offered the first commercial Web access in India in 1993. "We put up the first Internet in the country," says STPI's Naidu. "We never intended to be a carrier, but we needed to help the industry."

Today, Electronics City, which sprawls over 330 acres, is packed with multinational companies such as Hewlett-Packard and Motorola. Infosys alone claims 50 acres, where 9,000 employees roam over a campus that features a pool, a gym, a nine-hole putting course, and a Domino's Pizza. Out of its humble office, STPI manages a national network of 21 satellite gateways that allows companies to run operations from Srinagar to Thiruvananthapuram.

Other industrial parks are sprouting up along the fringe of Bangalore and will eventually form a 12-mile IT corridor, replete with residential and recreational facilities. A glossy brochure promises residents of one new development that they'll be able to get a phone line turned on within 48 hours—compared with the months or years of waiting that most new transplants to Bangalore experience.

"This is not India," marvels Surendra Singh Chawla, who works in public relations.

The Next Bangalore?

Srini Raju grew up in a village on India's eastern coast, in the state of Andhra Pradesh, where there was neither running water nor electricity. His father was a rice farmer. He was the first person in his family to go to college.

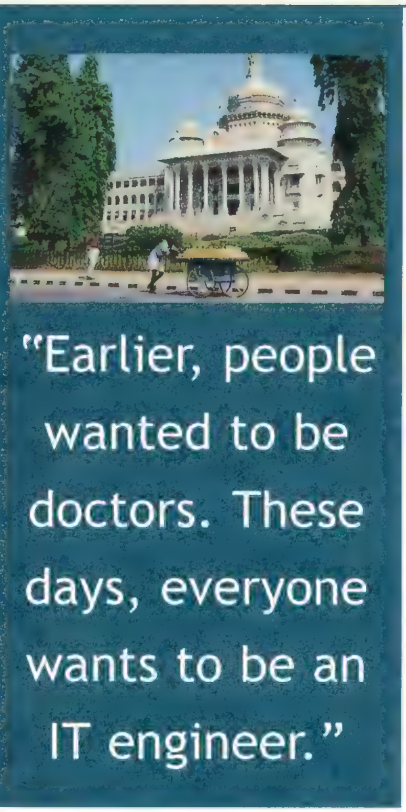
When Srini was 12, his parents sent

him to live with a married sister in a town with better schools. He won a scholarship to college, where he learned English. Srini went to graduate school and then got a scholarship to study civil and environmental engineering at Utah State University. He then stayed in the United States, working as a consultant with Agua Terra Consultants for the Environmental Protection Agency, building simulation models to predict the impact of harmful chemicals on the environment.

In 1992, Srini moved back to India to become the COO and executive director at a fledgling software company in Hyderābād called Satyam Computer Services. In eight years, the company went from 50 employees to 10,000. Today, Satyam, which listed its shares on the New York Stock Exchange in May and had revenue of almost $272 million last year, accounts for about one-sixth of the software exports from Hyderābād.

Last year, Srini and a group of other Indians who had also worked overseas founded a company and pledged to invest $50 million to $100 million of their own money into the venture. Their company, I-Labs, will serve as an incubator for both technologies and companies, and will underwrite research and product development in areas such as telecom, wireless, and bioinformatics. "We don't have the ecosystem that exists in California—the VCs or the universities," Srini says. "We're not looking to create the next Cisco or Juniper or Yahoo, but things that they use."

In the process, the city of Hyderābād is hoping to become the next Bangalore. Due north of Bangalore—an hour by air—Hyderābād is home to more than 4 million people, half of whom are Muslim. The city is the top point on what some call southern India's Silicon Triangle, which is made up of Bangalore, Hyderābād, and Chennai (formerly called Madras). As the state capital of Andhra Pradesh, Hyderābād is building a sister city to the west called Cyberabad, at the heart of which is the burgeoning 158-acre HiTech City, already home to Oracle and IBM and, eventually, home to residential and retail enclaves as well.



"Hyderābād is a startup itself," says Randeep Sudan, special secretary to the chief minister of Andhra Pradesh, who handles, among other matters, IT policy for the chief minister. In 1995, there were 22 tech companies in Hyderābād. Five years later, there were 1,197. In the same period, the number of engineering colleges in the state jumped from 32 to 106. This year, 50 more are opening up. According to Nasscom, almost a quarter of the engineers in India come from Andhra Pradesh.

The venture capital business hasn't grown nearly as fast. The only private-equity player in Hyderābād is APIDC Venture Capital, a $9 million fund that has invested in 15 companies over the last three years. One of those companies is E-Log, which uses wireless and local-loop technology to put Internet kiosks in Andhra Pradesh's villages, where residents will be able to do everything from checking crop prices to arranging marriages online.

"Digital-divide technologies are great opportunities," says Sarath Naru, APIDC Venture Capital's managing director. "It's more of an economic venture than a philanthropic one. The villager can immediately see the cost benefits, and they will pay for it."

More and more, Bangalore's VCs are looking toward Hyderābād for investments, and, recently, I-Labs has begun forming a joint venture with British incubator New Media Spark to create a $20 million fund aimed at India.

"All these companies used to be valued at half a billion dollars before the crash," Srini says. "Now, lots of small companies are in trouble here. Two or three midsize companies that are listed are in trouble. But the large companies are doing fine. We'll get significant returns even in this market."

Calling Mysore

It's Monday morning in Mysore, a two-hour train ride from Bangalore. On the second floor of a small office building, the morning shift at Comat Technologies is going to work. Wearing headphones and tapping foot pedals, young men and women with college degrees and special training in medical terminology and American English transcribe the recordings of U.S. doctors.

It's Sunday night in the United States, and doctors who called HealthScribe's toll-free number and dictated their notes earlier that day will find their files transcribed by the time they arrive at work the next morning. In an emergency, a physician can get a four-hour turnaround on a transcription.

In Mysore, using a phone to call another city in India can be a trial, but, thanks to a satellite gateway opened by STPI in 1998, 22 Indian companies can write code or transcribe charts while their U.S. clients sleep.

For centuries, Mysore was a wealthy kingdom, a principality that extended its rule over a wide swath of southern India. The Wodeyar dynasty built pretty palaces that still draw tourists to the otherwise sleepy town where ox carts outnumber cybercafés. But the glory days of Mysore's silk and sandalwood trade are history; Bangalore's entrepreneurs are the region's new royalty, and it's the

cybertrade that promises riches today.

Second-tier cities like Mysore are vying for the overflow of India's technology boom. Outside of Mumbai, there's Pune, and, on Karnātaka's coast, there's Mangalore.

"Bangalore is bursting at its seams," notes T.S. Venkitachalam, general manager at Larsen & Toubro's Mysore operation, where the giant Indian conglomerate develops embedded-systems software for its medical equipment and other gear. "The natural outflow comes here." Infosys, for example, is opening a $7 million Leadership Institute in Mysore, where 1,000 employees a year will be trained.

But, increasingly, it's back-office outsourcing that promises to be a boom for places like Mysore, which has an abundance of educational institutions and a low cost of living, but lacks the critical mass to make it a center of technology or entrepreneurial activity.

Nasscom predicts that IT-enabled services such as accounting, call centers, and medical transcription will gross India $17 billion by 2008. "India will be the outsource capital for the world," says Microland's Kar.

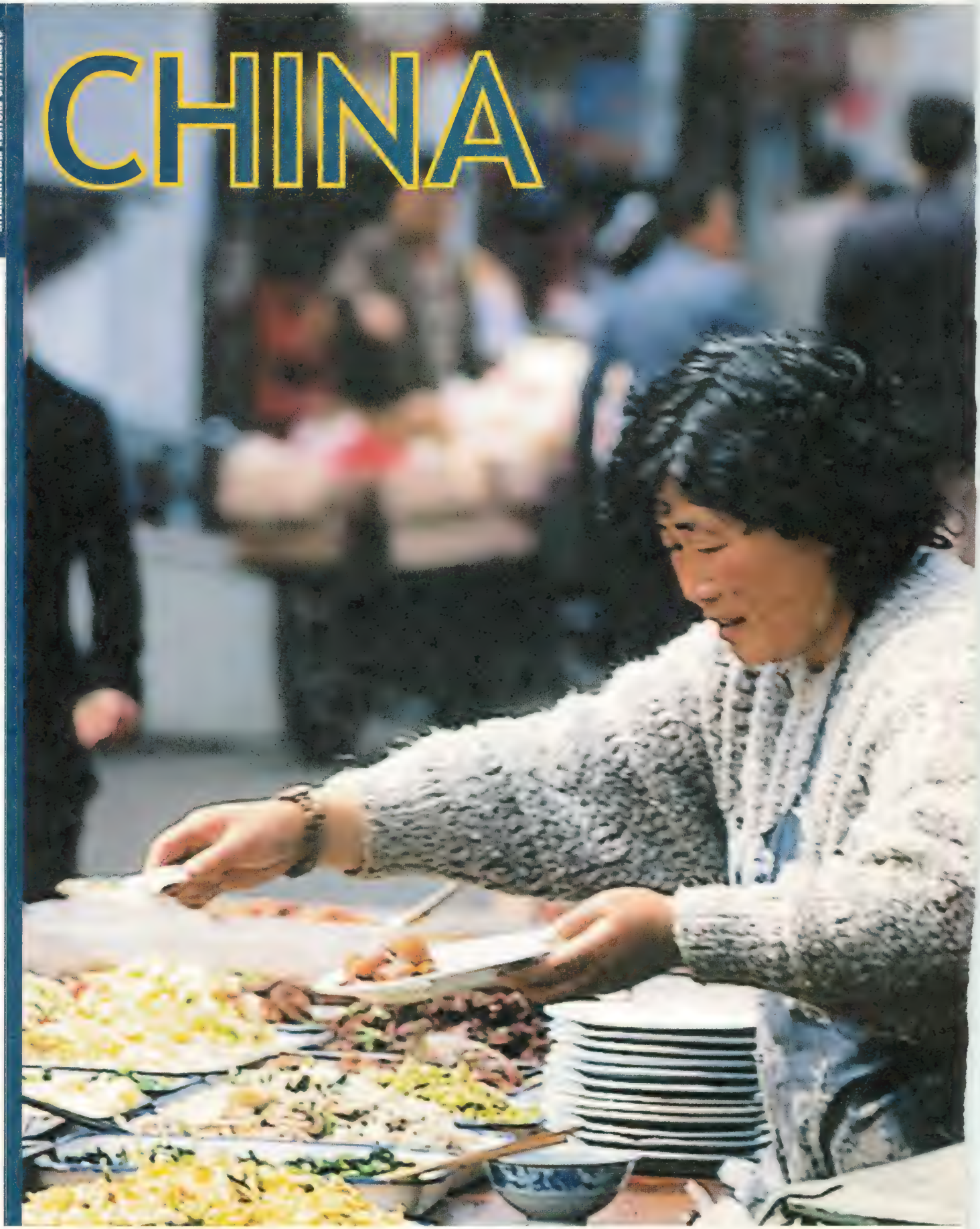
And Indian entrepreneurs are eager for that business. Comat Technologies, for example, earns 80 percent of its $2 million revenue from the United States. The company has been in business since 1993 but has only recently begun looking for capital to grow its business and open offices in the United States. "We're talking to VCs," says Comat Technologies President Shivram Apte. "We're going to need money."

That's just the kind of talk VCs like Jumpstartup's Subramanian want to hear. "Risk taking is increasing," he says. "Failure was frowned upon. Now it's changing. It's a good time for us to make aggressive investments. Show a 100 percent return, and everyone will put money in. Today, VCs are taking huge bets. It's finally starting to resemble classical venture capital." ■

Michael J. Ybarra is a contributing editor for UPSIDE.

(Top) Most Indians can only access phones or the Internet through private telecom stands. Peaceful Mysore (middle) hopes to emulate the technological success of nearby Bangalore (bottom), where the economic boom has snarled traffic and fouled the air.

CHINA



Investing in China is a risky but lucrative proposition if you can take the heat.

by James Judd

photographs by James Judd

If standard venture investing is a bunch of rich guys playing high-stakes poker behind a black velvet rope, investing in China is an even higher-stakes poker game played on some private floor where showgirls feed gamblers grapes and wipe their brows with scented hankies. It's risky and full of distractions, yet it's also potentially very rewarding to those who are able to get in on the ground floor. And, for all the business activity that has taken place in China in the last decade, it is still very much a ground-floor opportunity.

To gain perspective on the role that venture capital has begun to play in China, you have to try to understand China, and therein lies its greatest impediment: China is nuance personified. While our frontier mentality allows the United States to view every historical tragedy or triumph as an opportunity to wipe the slate clean and begin anew, this viewpoint is largely inadequate in China, where the impact of historical events lingers a little longer.

Much of the current wave of Chinese entreprenuerialism is attributable to a reverse brain drain flowing out of the United States and back into China. Chinese-born but Western-educated workers, virtually all men, are returning to China as big fish in a small pond that promises to grow ever larger. A lot of these guys made tons of money working on Wall Street or in the high-tech sector during the 1990s boom. Converted from dollars to yuan, that money has about 10 times the purchasing power in China. With this seed money, they can start whatever type of company they'd like, and China is welcoming them back. But the motivation isn't just money. Patriotism is a large factor: The Chinese deeply believe that China will lead the world in the 21st century. The desire to assist China in that ascension is pulling these businessmen back across the Pacific Ocean.

Capitalism in a Communist Country

In 1993, Jiang Zemin, general of the Communist Party of China, became president of the People's Republic of China, succeeding Deng Xiaoping. President Jiang, trained as an engineer, has set the stage for many major shifts in China's focus, in both its internal directives and its dealings with the outside world, and has used his influence to move China and the world beyond the events of Tian'anmen Square by changing the focus to China's technological investment. After the relatively uneventful return of Hong Kong to China, and the U.S. and European Union agreements to welcome China into the World Trade Organization, President Jiang is guiding China's adoption of technology to allow the country to assume a greater role in world affairs.

Wide use of Internet access and electronic consumer goods, such as cell phones and DVD players, is merely symptomatic of greater underlying changes in China. Although hard-liners view the Internet as more threatening than the press, political humor is permitted, as long as Tian'anmen Square, Falun Gong, and Tibet are not mentioned. Not exactly First Amendment protections, but a giant step forward nonetheless. Cell-phone messaging, a minor convenience in the West, is a powerful weapon against repression in China, as it allows witnesses to foil the government's official version of political events. Today, even the citizens of inner Mongolia have their own cell phones. This is especially impressive considering that nationwide use of hardwired telephones hovers at around 157 million, or 13 percent of the population, according to China Ventures.

Tourists will notice little dissimilarity between the Chinese people on the streets of Shanghai and Beijing and those back home. Automobiles and traffic gridlock have replaced the famed legions of bicyclists. Tourists can even have their pictures taken at the Great Wall beside a guy who's dressed up as Mickey Mouse.

But nothing is more telling of a significant shift in the Chinese mind-set than the fact that none of the Chinese businessmen interviewed for this story were willing to label themselves as communists. They either ducked the question or flat out stated that they are not communists. Whether it is true that these and other businessmen in China view themselves as capitalists within a communist country, or whether they realize that distrust of communism is an impediment to doing business with the West, remains debatable.

In the past, China was governed primarily by military officials and lawyers.

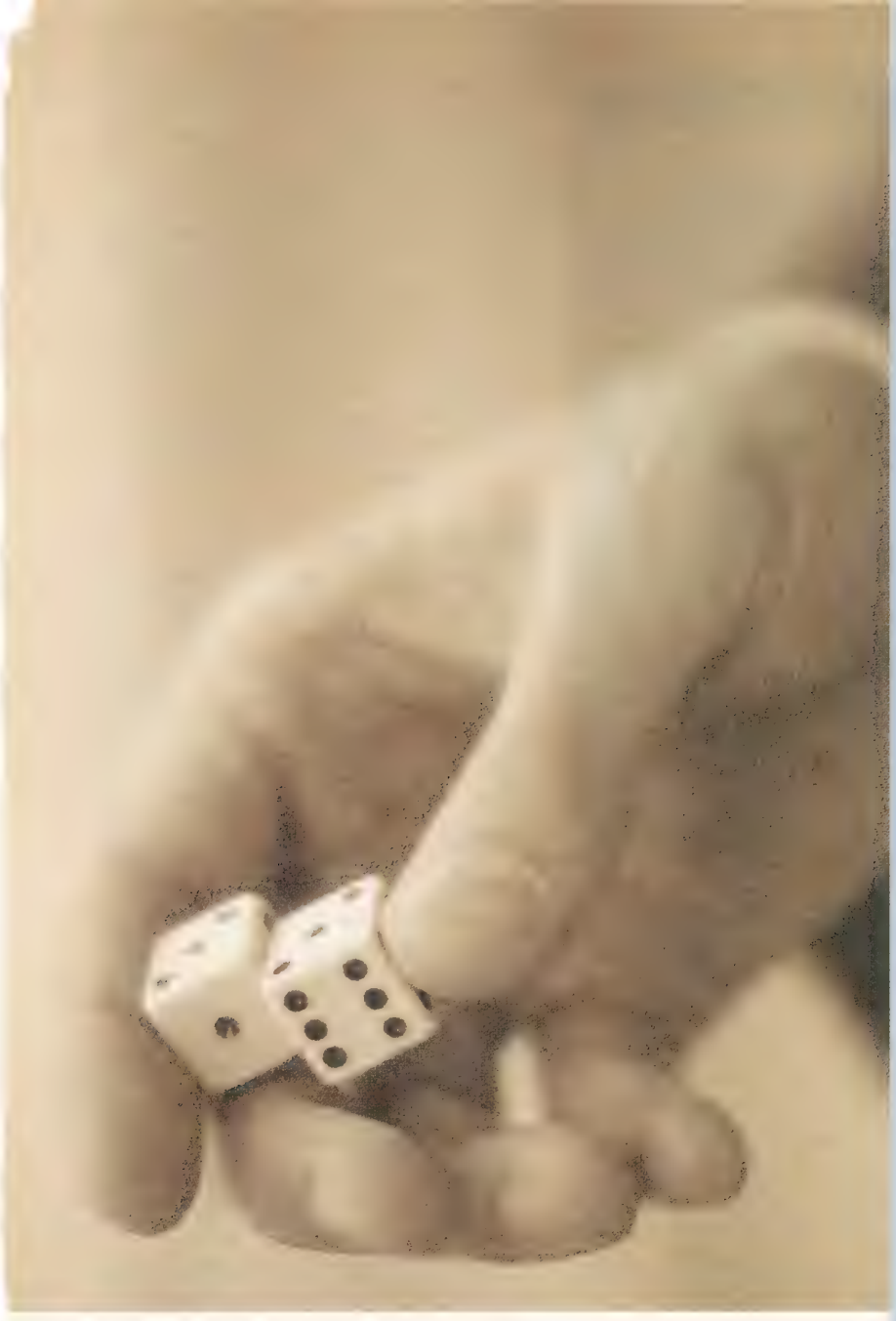
Today, it is governed mostly by innovative, problem-solving engineers. The military, although weakened, remains powerful. The current movement is one of free-enterprise capitalism under a communist dictatorship, which sounds implausible but, in fact, is working fairly well. Chinese leaders have been adamant about creating economic growth, and they meticulously planned this economy. Unlike their predecessors under Mao Tse-tung, today's leaders are more pragmatic, better-educated, and less militaristic. And they are leading a population that is comparatively more disciplined and better-educated than our own.

The "China First" policy of the new leadership is moving the country into the Internet age much faster, in some ways, than could be done in the United States. A massive "fiber to the curb" effort is being made with no expectation of a return, which is not possible in a country where the private sector is the primary force.

Technology offers China its best chance to catch up with the United States and Europe. Wireless technology, for example, is helping China jump over the last-mile problem of trying to build out copper and fiber networks throughout the far-flung country. In the case of China's heavy investments in education to include interactive Internet-based education programs that require broadband access, wireless technology offers a solution for the many buildings in China that are either too old or too far from the backbone infrastructure.

Nonetheless, while technology sectors offer ample opportunity for investors in the present, the best way to make money in China in the future will not be through cheap labor and manufacturing alone—as it is mostly today—but by selling goods and services to rising Chinese middle- and upper-class consumers. According to China Ventures, there are about 9 million Internet users in China, most of whom are concentrated in the urban, coastal cities.

(Top) ENet China CEO Zhang YQ. (Middle) Wide use of cell phones and Internet access is symptomatic of greater underlying changes in China. (Bottom left) East and West meet as a Mickey Mouse look-alike poses for pictures at the Great Wall.



HOW DO YOU CHOOSE THE PERFECT MERGER PARTNER?

You are probably very careful about all your business decisions. But you can't possibly be aware of all the companies out there that have synergistic interests compatible with your own. This is where Digital Coast Partners can be of inestimable value. We make it our business to know the details of a range of businesses and their products and services, strengths and needs. Connecting you with the perfect partner to advance your company's goals and objectives. Managing the entire process to maximize your firm's valuation. Identifying and negotiating with the key decision makers. Leaving nothing to chance. Call on one of our Mergers and Aquisitions specialists. Chances are you will find them most helpful.

DIGITAL COAST PARTNERS

INVESTMENT BANKING
PRIVATE EQUITY

Digital Coast Partners, LLC
100 Wilshire Bl., Ste. 400
tel 310.260.6006

Member NASD
Santa Monica, CA 90401
www.digitalcoastpartners.com

INFORMATION TECHNOLOGY • COMMUNICATIONS • MEDIA AND ENTERTAINMENT

Knowledge Is Power

You might imagine that, after the student uprising in Tian'anmen Square, empowering Chinese students with the use of computers and the Internet would be the last item on the government's agenda. However, the opposite is true. The government is committed to rebuilding its education system through the implementation of technology to be sure that its students and teachers are ready when the opportunities to gain a competitive edge present themselves. Is the government laying the foundation for future uprisings and the eventual toppling of the communist regime? Possibly.

In the short term, this plan presents some significant investment opportunities for communications industries. The Ministry of Education has required that all teachers become proficient with computers and the Internet before the end of 2005.

Guiding the education investment is the idea that China's future is not about money, but about power. If knowledge is power, then educating the people will empower the nation. The ability to control access to knowledge will also be a means of power. The reasoning behind content buildup in China is that it will eliminate the learning curve created by English-based programs.

The Beijing-based National Library of China—the fourth-largest national library in the world—is being completely digitized, without concern for whether copyrights or other intellectual-property rights are being violated. Digitize first; ask questions later. This is something that could never happen in the United States. And the Chinese government is facilitating rapid growth in China's computer-language programs by partnering with companies like IBM, which maintains a research center in Beijing that is primarily dedicated to solving language-based computer issues.

In this scenario, the struggle between China's haves and have-nots will not be based upon who owns land, but will be based, instead, upon who does and who does not have access to knowledge. Controlling access to information gives the government some measure of hope that it can retain its iron-fisted grip, but governments have always lagged far behind techies.

Technology offers China its best chance to catch up with the United States and Europe.

Are there investment opportunities in education? Yes. Once the ministry issues its directives and funding, school officials are on their own to implement the programs and procure the necessary goods and services. A massive fiber optic and wireless infrastructure buildout is necessary. Suddenly, the communications companies that were disappointed by the slow pace of progress in China, and were concentrating on getting their systems to market in the rest of the world, are jostling to make new connections and find new financing to implement in China.

Likewise, the banking industry is undergoing a complete renovation. The country is straining to modernize its banking industry before acceptance into the World Trade Organization requires it to open its borders to competitive foreign banking. Chinese banks—even those operating under the same banner—are mostly autonomous. The basic computer systems that are included in the workstations of every bank teller in the United States aren't always present in China. And it isn't just the equipment that is absent in these banks: Fiber into the buildings isn't there, either.

Show Me the Yuan

Where do entrepreneurs go for money in China? First to government sources, but little government funding is available. Walking into a venture capitalist's office with a business plan isn't going to work, either. Anyone with a plan that even remotely resembles Yahoo will not get funded. Particularly vexing for those hoping to raise or invest foreign capital is the fact that a foreign investment in a Chinese company will make that company a foreign-owned company and, therefore, subject to much greater scrutiny, regulations, and taxes.

Once an entrepreneur gets in front of a board, he is likely to find the Asian VC approach formidable. One guy's vote might be powerful enough to do a deal in the United States, but, in Asia, one dissenting opinion is often enough to kill it.

The private-equity community is fairly large. Major corporations and the government have funds, but funds are small for high-tech startups. China never got onboard the big-money days of the high-tech boom. Chinese venture capitalists do not have a track record of funding companies based on ideas. Seed and angel funding within China are rare; budding entrepreneurs don't have a minor-league venture community to raise companies up to the majors. Products, sales, and customers—all the things that didn't matter in the United States during the boom years—still matter in China. But, once those criteria are established, a large pool of private-equity money exists.

Imagine a future where a single software product allows your employees to communicate anywhere in the world, wirelessly.

The future has arrived.

Enter the ClickServices Mobile Application Server, the one software infrastructure product that allows your company to mobilize its workforce with untethered access to email accounts, short messages for updates and other corporate information that increases productivity, maximizes their time and leverages your technology investments.

The Mobile Application Server utilizes the fundamental horizontal architecture of the ClickServices platform. With this industry-leading licensed product connected to your back-end, your company can cost-effectively 'deploy once, support all': deploy content and applications once, and seamlessly support legacy, current, and future devices and technologies.

ClickServices IP-based solutions enable messaging, email, applications and other information to be distributed across any technology, network provider, standard, markup language or even natural language, around the world. Employees, partners – even customers – will enjoy instant communication without a thought to the barriers faced with device-, operator- and network-specific implementations. And the ClickServices Mobile Application Server is ready to deploy today.

One product that spans the globe. The future is yours – now. Call ClickServices to learn more.

www.clickservices.com | 1.866.947.3577

ClickServices

Trust is also more important than money in China, and, for that reason, the general consensus among all parties interviewed for this story is that a Chinese face at the negotiating table, for better or worse, is essential for a successful outcome.

It's been said that the key to doing business successfully in China depends on a person's "guanxi," a Chinese word for trust coupled with connections. But others, such as ChinaVest Managing Director Jenny Theleen, say you can't rely on guanxi alone anymore. Theleen, who has been doing business in China long enough to remember when getting in and out of the country meant sleeping in train stations, never knowing when you'd be coming or going, and hoping that you were able to get out before your visa expired, says that knowing the right people—or the right person to introduce you to the right people—is essential. A little guanxi can help you get through the door, she says, but, once you're there, you've got to deliver.

Is there a place for the independent entrepreneur with a business plan and a dream in China? Maybe, but even the sorry state of affairs for U.S. entrepreneurs is smooth sailing compared with the challenges faced by their Chinese counterparts.

According to William H.C. Cheng, president of Westlake Group, which partners with China Ventures, very little venture money is going to new ideas. Most of it is going to companies that can do next-generation upgrades—making things a little faster and more efficient. Chinese venture capitalists, facing the same downturn phenomenon as U.S. venture capitalists, don't want to invest in the Internet, but in core technologies. Few opportunities exist for an engineer with an idea to get angel or VC funding.

Cheng is the type of investor entrepreneurs seek out when they realize that they probably won't find funding within China and must look within

Is there room for the independent entrepreneur with a business plan and a dream in China?

the United States, but they still need someone who understands how China operates. Tall and elegant, Cheng is a dashing international businessman whom other venture capitalists strive to imitate. In his South San Francisco office, he is stately and slightly reserved, but, seated in an ornate, private dining room in Beijing, where he holds court over a group of entrepreneurs (and one reporter), he is clearly in his element.

Although he is not a Chinese national, Cheng possesses an in-depth understanding of the nuances of doing business in China that has become a commodity for other venture capital firms looking to explore China. His office receives several calls a week from firms looking for a point man with regional expertise and proficiency in core areas of technology. His firm's investment in more than 30 companies in basic industries such as construction and telecommunications, with a base of more than 3,000 employees in China, makes Cheng the guy everyone who wants to make money on the mainland wants to know.

Startling Similarities

What is most startling about the experiences and expectations of entrepreneurs in China is how similar they are to those of their Western counterparts. For example, ENet China built EGuo (*guo* means country in Chinese), a business that combines the merits of 7-Eleven and Kozmo.com. This multichannel convenience-commerce platform for affluent customers provides one-hour delivery services through online ordering and serves 1,300 customers daily throughout Beijing. Conceived in 1998 by ENet China CEO Zhang YQ, a Chinese national educated in the United States, EGuo has been terrifically successful and is a benchmark of entrepreneurial spirit in China. In the last six months, the company's sales exceeded $1 million, and total revenue for the year should exceed $5 million.

After toiling as a Wall Street tech analyst for several years, Zhang realized that two fundamental conditions must exist before a Webvan Group or Kozmo model will work: First, you need a large group of people with disposable income who are willing to pay for convenience. Second, you need sustainable cheap-labor sources. China has both of these conditions, while the United States only has the former.

Most of EGuo's business is in delivering lunch items to office workers, and almost 75 percent of EGuo's customers are male and are an average age of 30. EGuo has one up on Webvan in that it will deliver an order within an hour of receiving it from the customer, and the delivery cost for EGuo is about 5 cents, compared with Webvan's $1.

The offices are located in a barely converted apartment building. The receptionist is tucked into the hallway, the accounting staff is pressed into the living room, and, in the back bedroom, many of the 40 red-vested

EGuo workers process Internet orders. Monitors suspended from the ceiling at every turn display the Web site with its special of the day emblazoned on the home page.

Street vendors selling or cooking a single food item have always been an integral part of Beijing culture. Thousands jostle for position in the throngs of foot traffic. EGuo brings those vendors together, inside stores, for a small fee that collectively covers the rent on the buildings, provides the vendors with additional foot traffic, and draws locals looking for their favorite vendors into the EGuo stores, where brand recognition is built without expensive advertising.

But, after several rounds of funding and consistent growth, Zhang has found the search for additional funding difficult. Cobranding arrangements with calling-card companies, Nestlé (Nestlé coffee is big in China), and Coca-Cola have helped sustain the company during the current Internet recession, which has soured as many investors in China as it has in the United States.

Common Ground

The long run of investments by U.S. venture firms and opportunities for U.S. companies looking for a way into China will have to better anticipate the sort of disruptions to peaceful cooperation caused by incidents such as the spy plane landing in China in March. Human-rights violations that inflame protest in the United States, a lack of gender equality in Chinese venture and entrepreneurial enterprises, a continuing distrust of all things Red, the threat of China invading Taiwan, and a U.S. administration with a retro–Cold War mentality—the list goes on and on—continue to serve as stop signs for the risk-averse investor. This is not an endeavor for the nervous type. But, if the long view is myopic enough to keep out these distractions, investing in China holds an enormous promise of making some iron-willed investors very rich. ■

James Judd is former features editor at UPSIDE.

EGuo (delivery vehicle pictured, below left) is a benchmark of entrepreneurial spirit in China. It combines the merits of 7-Eleven and Kozmo.com, delivering orders within an hour and also bringing together traditional street vendors inside stores.

SINGAPORE

Is the government's strong arm enough to awaken its investment community?

by Eriq Gardner

A few years ago, Singapore's government officials had a slight problem on their hands. A small island—only 253 square miles but with a population of over 4 million—Singapore was running out of room to build new roads. According to Singapore's Economic Development Board (EDB), the government estimated that roads were consuming 14 percent of the land—roughly equivalent to the area needed to house the entire population of the island. Yet the number of cars on the road continued to surge, and something needed to be done quickly, before Singaporeans took to living out of their automobiles.

Instead of restricting vehicle ownership or building new roads, Singapore chose the road less traveled. The government invested in new technology to save the day and implanted optical-sensory flash points along the highway in the hope that tolls—if not tollbooths—could manage the flow of traffic. Since this change, rush hour has become more expensive and, as a result of more cars traveling at non-peak times, quicker.

Today, as almost any Singaporean might point out, the island just might have the most sophisticated stretch of pavement in the world: Information gets beamed to and from smart cards attached to the windshields of automobiles often going more than 50 miles per hour.

In Singapore, it seems there is no room for error. Likewise, ever since the country finally realized that the road to the economic future started on the information highway, Singapore has been playing catch-up, trying to jump-start a nascent indigenous VC force that it believes can transform the country. But can the government make the investment community run as smoothly as its highways?

From Goods to Ideas

Singapore, in this respect, is a very top-down society. Decisions made by the upper echelons of power often dictate how Singaporeans see themselves. The critical moment for Singapore's cultural economy came not a few years ago, but in the late 1950s, when Britain withdrew its colonists from the nation. A few years later, Singapore split from a joint government with Malaysia. At that point, the newly formed government of Singapore, facing the same post-colonial choice of withdrawal or engagement that many of its Southeast Asian neighbors confronted, decided to do exactly what India, Malaysia, Indonesia, and Thailand were *not* doing, namely skipping the existential search for national identity and diving headfirst into global commerce. Long valued as a major shipping port because of its location, Singapore quickly embraced the role of being a bridge between various Asian cultures and the West. This diffused identity was nicely cached into a major role in the burgeoning manufacturing industry of textiles in the 1960s and electronic equipment later on.

Only in the late 1990s, however, did it become clear to Singapore's authorities that information technology was sweeping the world's economies off their feet. Since then, Singapore has invested large pools of capital, hoping to get new technologies and businesses off the ground and reforming both the rules and the structure of what it means to be an enterpriser within the country.

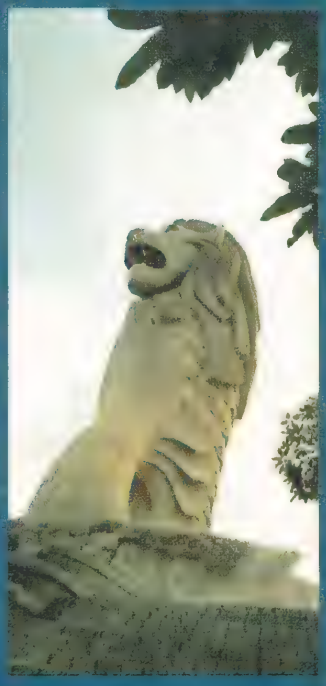
Today, Singapore's streets feel like a hallowed tribute to where its government officials feel the country is heading, littered with more homage to the benefits of a consumer society than remembrances of the past. Even Singapore's haute Raffles Hotel—which was once home to colonial Englishmen, uppercrust society, and a wild cocktail called the Singapore Sling—has been transformed so that it is now just one component of the island's omnipresent mall.

"Psychologically, we've always been a trading country," says Infocomm Development Authority (IDA) CEO Yong Ying-I. "And, in many ways, we still are. We just trade different things now. We used to be a marketplace of goods. And, now, we are a marketplace of ideas."

Singapore as a Hub

At the heart of Singapore's drive to enter the next stage of a technology economy is its goal of being a hub for Asia's high-tech growth. Singapore—as almost any businessperson, venture capitalist, or government official will acknowledge—will never be the

Singapore's government invested in new technology to manage traffic flow, and, today, it may have the most sophisticated stretch of pavement in the world. Now the government is trying to make its investment community run as smoothly as its highways.



destination of choice for consumer products. Instead, many believe that the island can be the perfect launching pad: Use our resources, Singapore's optimists say—our mighty infrastructure, our knowledge capital, and our generous government support—and we will introduce you to Asia.

"We want to be seen as the key hub of Asia," says Chua Hwee Song, manager of the $1 billion Technopreneurship Investment Fund (TIF) at TIF Ventures. "Singapore is very centrally placed, and, although we [have] only 4 million [people], we have a huge corporate market—close to about 6,000 multinational corporations. The regional and operational headquarters of many of these firms are here."

Surrounded by Indonesia, Malaysia, Thailand, and the Philippines—four countries rife with economic and political turmoil—Singapore stands quite close to an entire region that, if it can get its act together, has enormous high-tech growth potential. Without many of the legacy infrastructures that haunt governments and institutions elsewhere and impede progress, Southeast Asia may very well make it onto the fast track. For instance, Southeast Asia's telecommunications and wireless technologies are already a couple of steps ahead of many other regions'. In Singapore, wireless antennae are ubiquitous in everything from subways to high-rises. The country has an extensive submarine-cable network with a total capacity of 53.36Gbps (projected to increase to more than 15Tbps by the end of 2001). It is also liberalizing its telecommunications market, granting about 150 licenses to both domestic and international operators.

"The good thing about Singapore is we can act as a bridge," says Doris Yee, a partner at IGlobe Partners. "The markets in Asia are not homogeneous. The markets are fragmented: different languages, different cultures, and different rules. So that, in itself, is a challenge. You've got to keep up with what is happening."

The region has already made steps toward cooperation: increasing intra-regional trade, reducing tariffs and customs barriers, and building better transportation connectivity between the countries. However, whether Singapore can truly act as a big brother to the region without arousing the hegemonic suspicions of its neighbors is up for debate.

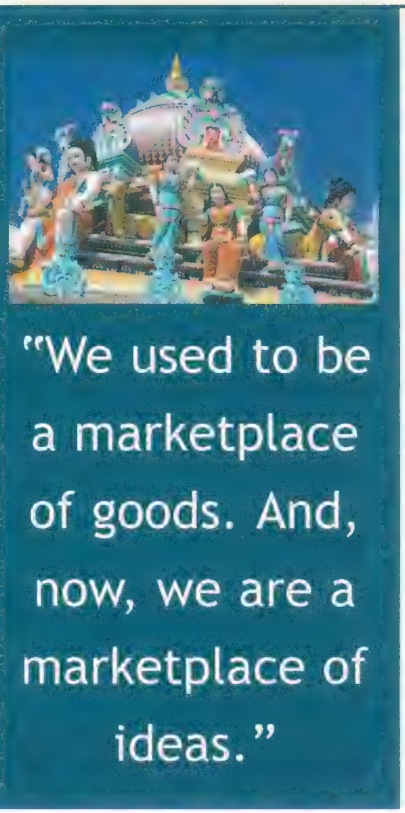
But the upside, Yee says, is enormous. With governments ready and willing to work with the countries of the Western Hemisphere, Southeast Asia may be a viable alternative to the superpower that the region is typically overshadowed by—China.

Many Singaporean VC funds are betting that IT and enterprise software are the places to be. For a culture wrapped up in the potential of business technology and unsure, like almost everyone else, of the exact consumer practicalities of these new technologies, Singapore's somewhat safe dalliance into preparing others to lead the next charge is not surprising. Instead, it suggests that the populace knows the direction it wants to head but hasn't figured out an exact destination. Speak with almost any Singaporean businessperson, and you are likely to get the same vibe.

"We're moving into value-added services," says Yee, adopting an air of clichéd market-speak vagueness that Westerners are all too familiar with, "getting people trained in technologies; getting engineers to go into R&D labs; and creating products, ideas, and solutions. That is a very good foundation for moving into technopreneurship."

Singaporean Technopreneurship

When Yee and the rest of the investment community in Singapore talk of "technopreneurship," they are echoing a word the government has given them along with its money. The word flows from the lips of everyone in the country, is stamped on the government's literature, and has even found its way into the United States, where Singapore has hired a high-priced public-relations firm to handle its image and talk up "Singaporean technopreneurship."



According to Economic Development Board Chairman Teo Ming Kian, technopreneurship refers to a spirit of creativity and risk-taking upon which new ventures will be launched. To achieve this spirit, the island is making a number of major investments. The first of these investments, Teo says, is in education, overhauling the current curriculum—under which Singapore's students have frequently earned top test scores internationally in math and science—in favor of PC-centric instruction that gives as much weight to conceptual thinking as it does to the hard sciences.

Teo also says that Singapore is liberalizing the foundations of its economy in an effort to spur investments from both inside the country and abroad. These changes include loosening bankruptcy rules, creating favorable tax treatment of stock options, making it easier for companies to list on Singapore's stock exchange, and deregulating industries such as telecom.

In terms of telecommunications and infrastructure as an impetus for growth, Singapore is making sure everyone gets on the information highway—fast. According to the IDA, Singapore's broadband network reaches an amazing 99 percent of the island's homes, schools, and businesses. In the IDA's 2000 report, a small note on the last page pleads: "There are more than 30,000 less-fortunate families who are in need of PCs. If you have a used PC that you don't need, pass it on." Of course, compared with statistics from almost any other country, 30,000 out of 4 million is nothing. Yet the equation of computer needs with poverty illustrates how seriously the government is taking this issue.

When Singapore was building its high-tech highway to control the flow of automobiles, skeptics could have easily pointed out potential obstacles: The technology, especially the image-recognition software, might not have been ready. Getting all the vendors to work together could have proven too tough a task. Or the citizens, perhaps fearing yet another tax or citing strong privacy concerns, might not have accepted the system. Nevertheless, it appears that the government's strong arm was able to overcome all these potential obstacles.

As reflected in the modifications the island has made in accordance with the government's directive, Singapore hopes to become an Asian-business paradise for both investors and venture capitalists. The question begs, however: If you build it, will they come?

The Fund of Funds

Under the wing of the Ministry of Finance, TIF Ventures, acting as a sort of "super VC," might be called "the fund of funds." In the last few years, it has invested $1 billion in Singapore. Rather than investing in startups, it has poured the money into the coffers

of other venture capitalist firms. TIF Ventures' Song says that it is "trying to get all the players together and build a Silicon Valley environment." The money that TIF Ventures has invested, he says, has found its way into 47 funds. Twenty-five percent of the money went to indigenous VCs, with the hope that dangling cash in front of the country's eyes would create interest among local entrepreneurs. Song says that the idea was to provide a dollar for every one and a half to two and a half dollars that were raised. "So we are able to get a core group of indigenous VCs going from our sponsorship," he says, "and we know that they are good VCs, because the market is soft, but they are still raising their own money."

The destination for the second portion of the fund, called the "broadbase trench phase," was any reputable VC firm that would set up shop in Singapore. The remainder of the money, the "strategy phase," went to international high-yield funds that didn't have to spend even a minute dealing with Singapore's intolerable humidity. If the broadbase trench phase was aimed at attracting foreign capital *into* the country, the strategy phase set the bar even higher, creating a social network that Singaporean companies could go to when they were expanding globally.

So far, the government's strategy seems to have worked, at least as far as increasing the level of money raising going on in the country. According to the Economic Development Board, a paltry $16 million in funds was raised in 1985. Today, that number has ballooned to $11.5 billion, under the managed care of close to 90 fund-management groups and 370 investment professionals.

Risk Aversion vs. Impatience

The young Singaporean VC community has a long way to go before it reaches the maturity found in other countries. The frustration felt by local entrepreneurs is self-evident. Building an effective venture capital industry, according to some locals, is a big issue.

Singapore hopes to become an Asian-business paradise for both investors and VCs.

"Do you want me to give you an honest opinion or a polite one?" asks Sandra Lee, chief executive officer of Singapore-based logistics-software startup Cargo International Web, perhaps wrestling with national allegiance on one hand and actual memories of Singaporean venture capitalists on the other.

"It's pretty much a nightmare dealing with them," Lee says bluntly. "Why do I say that? They seem to have a follow-on attitude. If I were to get a VC from Silicon Valley here, I would have no problem with the VCs doing due diligence. I'm not saying that [Singaporean VCs] aren't good. But, from the experience I've had, the only constructive help I've gotten is from the government. They are not VCs, though."

Lee and a few other Singaporean entrepreneurs, who asked to not be identified, say that venture capitalists on the island are so conservative that they might as well have no funds to begin with. Lee and her compatriots admit to logging a good deal of flight time, in the hope that VCs outside of Singapore don't hold their purse strings as tightly as Singaporeans do.

"People in this part of the world tend to be more risk-averse," Lee says. "They tell me, 'If it's so smart, why didn't anyone else think of it? Why [should] I bother? What am I getting?'"

On the other hand, the VCs say that the entrepreneurs are somewhat stubborn, making unrealistic demands during hard economic times. "Patience is a virtue," says one senior manager at a Singaporean VC fund. "They really just don't get it sometimes."

"We've seen a lot of startups and a lot of young, enthusiastic people who might not be too realistic," says IGlobe Partners' Yee. "A lot of that effervescence is coming out. A lot of those unrealistic IPO goals of nine months ago have been shaken. Right now, the situation is getting more stable."

The hopes of ambitious entrepreneurs and ROI-obsessed VCs are certainly not a local tale, nor a new one. But, in Singapore, where the government has so vigorously pursued a model of Western capitalism—a facsimile, if you will, of everything that it's digested from the newspapers and the multiple English-language business channels flooding the airwaves—there is a certain hollowness to these affairs that does not exist elsewhere.

In a country that marches its children to school two-by-two in plain white uniforms, and then tries to preach to them the virtues of creativity and independence, this is a somewhat unsurprising result.

A Hopeful Future

But, if there is one place that may lend hope to the region, it is the National Science and Technology

Dear Peter,

Thank you and your team for creating so much for BrokerageAmerica, so powerfully and so quickly. We view ourselves as the next evolution in online trading. It's clear to us from your work that Dirty Water is the next evolution in marketing communications service.

Regards,
Drew

Drew Sycoff
CEO
BrokerageAmerica

BrokerageAmerica℠ is a subsidiary of Andrew Garrett Inc.

Board–funded Kent Ridge Digital Labs (KRDL), which was created in 1998 by a merger between Singapore's Information Technology Institute and the Institute of Systems Science. It is an organization staffed by an eclectic crew of international engineers—an incubation of sorts that is winning worldwide acclaim. The team has been successful on serveral fronts: partnering with Microsoft, Apple Computer, Ericsson, IBM, Lucent Technologies, and Siemens, to name a few; working on cutting-edge technology like language processing and optical recognition; and, finally, attracting high-profile international venture capitalists to commercialize its technologies and talent. Since incorporating in 1998, KRDL has spun out 10 companies, and 8 more groups are currently in incubation.

KRDL's success seems to stem from a basic love of what technology is capable of—like recognizing a license plate at 50 miles an hour—rather than the pursuit of something vague. This attitude has attracted a wealth of talent and capital to the organization.

"It's a system where most of our core funding goes into research," says Juzar Motiwalla, CEO of KRDL. "And then, when the research shows interesting results, we look at the boundary of possibilities for it and then incubate the idea in-house. And then the venture capital will come in."

In a culture where one big decision many years ago thrust the country onto a path where every road led outward, it's not surprising to now find Singapore's government-funded future housed in what can only be called—to borrow IDA CEO Yong's appropriation of former U.S. Supreme Court Justice William Brennan Jr.'s phrase—a "marketplace of ideas." ■

Based in New York, Eriq Gardner is an associate editor at UPSIDE.

Although Singapore will never be the destination of choice for consumer products, many believe that the island can be the perfect launching pad. Its goal is to serve as a hub for Asia's high-tech growth, using its infrastructure and knowledge capital.

Dear Peter,

I want to thank you and your team for your drive, your hunger, your passion, and your instinct. These are the things that made you stand out from the crowd, and they are the same things that are helping to power the current growth of our brand. Dirty Water is not just our agency – you are an extension of us.

– Lori

Lori Karlsson
VP Marketing
Pegasus Communications

FOCUSED INTEGRATION

Brand Development Advertising Web Direct PR & Beyond

www.dwintegrated.com

IRELAND

On the heels of the Celtic Tiger's economic success, Irish VCs meet the rising needs of local entrepreneurs.

by Kendra Wall

photographs by Kendra Wall

The 40 greens of Ireland: It's an old saying that reflects the awe-inspiring landscape, and, in recent years, the infusion of the U.S. dollar. Promoting the benefit of a strong educational system; a highly skilled, young workforce; and attractive tax incentives, government development agencies spent the past 30 years chiseling away at a 20 percent unemployment rate and developing Ireland into one of the strongest economies in the European Union (EU). Its nickname, the Celtic Tiger, represents its astronomical economic growth. Only fully liberated from the United Kingdom in 1949, Ireland has built an impressive dynasty in pharmaceuticals, semiconductor technology, and the software industry. Increasingly important to the United States and the rest of the world as a channel into the European market, Ireland has turned to higher-value research, development, manufacturing, and high-tech customer service.

With the high-tech industry firmly established, local entrepreneurs, emerging from universities and multinational companies, are developing better business plans and aggressively seeking more funding than at any other time in the country's 52-year history. With four or five moderate-size funds mostly dedicated to early-stage investing, the VC community is trying to meet the needs of the growing number of Irish entrepreneurs.

Building Critical Mass

Ireland's economic development from a traditional agrarian society to a software and pharmaceutical giant is largely attributed to Industrial Development Agency (IDA) Ireland, the government's inward-investment arm. IDA's media manager, Brendan Halpin, says, "For the first time [in the 1970s], we said, 'What did Ireland have to offer?'" What they came up with was a good infrastructure and the availability of young, educated people in the area of electronics.

But attracting companies was difficult. Most U.S. companies didn't want to invest in places without an immediate market. IDA's focus changed to smaller companies without a foothold in Europe. Using tax incentives and grants, IDA attracted assembly and test facilities of electronics-industry startups. These investments came in waves centering around U.S. technological advancements, such as Digital Equipment Corp.'s (DEC's) minicomputer, Wang Technology's personal computer, Amdahl's IBM-compatible mainframe, and Apple Computer's PC.

The Silicon Valley VC community gave IDA some sage advice: The computer business would shift from hardware to software, which would become 90 percent of the business. The Irish listened, and legislation was changed so software companies could receive the same tax benefits that the manufacturing plants enjoyed.

In 1985, Microsoft set up a testing facility in Dublin. Since then, IDA has aggressively targeted U.S. and European software companies. Today, most major software providers—including Oracle, Novell, and SAP—operate manufacturing or test facilities in Ireland. As a result, Ireland is the largest software exporter in the world and handles the majority of Microsoft's business in Europe, the Middle East, and Africa, as well as all of its Internet sales.

In 1989, Dell Computer set up a Pan-European multilingual tech-support center, and key hardware providers followed. IBM, Intel, Motorola, and others took advantage of the native English language, foreign-language capabilities, and skilled workforce to establish manufacturing plants and customer-support and R&D facilities.

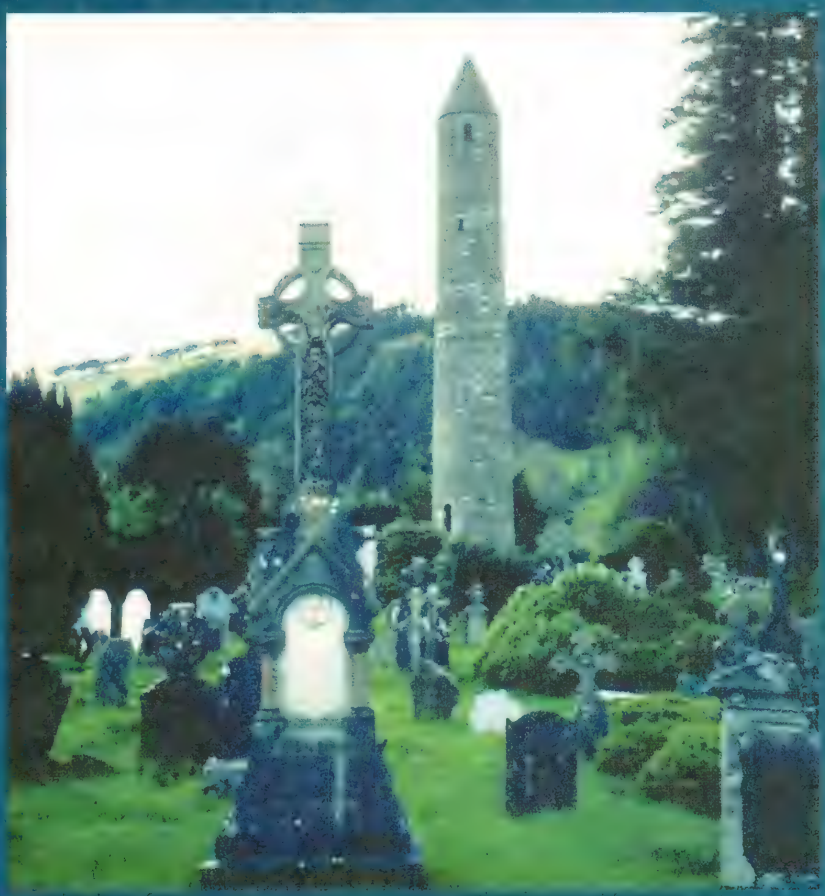
The transition from manufacturing to service- and research-oriented projects became the government's next focus. It emphasizes knowledge-based, value-added inward investment, such as Intel's $2 billion investment to construct an advanced wafer-fabrication facility for its next Pentium processor.

Indigenous Growth in Ireland

While the economy has benefited from the presence of multinational companies, Ireland's entrepreneurial spirit was relatively uninspired throughout the 1980s. The predominance of manufacturing-based jobs provided a job-for-life attitude. Beyond this, the business culture in Ireland was traditionally risk-averse, either not fully understanding the benefits of equity sharing or aspiring to reach profitability on its own. Gerry McCrory, managing director of Cross Atlantic Capital Partners—based in Philadelphia, London, and Dublin—and CEO of Dublin-based Crucible, says, "VC was more of a last resort."

As a result, Ireland's private-equity industry remained minute. "In the early days, no one went near venture capital, because this was a big, scary thing," says

(Top) Cape Clear's Annrai O'Toole (left), executive chairman, and John McGuire, chief operating officer, at the main entrance of St. Stephen's Green in Dublin. Cape Clear is one of many ventures started by former executives from Iona Technologies.



John McGuire, COO of Cape Clear, a startup with an initial infusion of $2.14 million from Dublin-based Act Venture Capital, which manages $169 million in several different funds. Cape Clear has just closed a second round with $16 million invested by Accel Partners and Greylock.

Times have changed. A better understanding of global markets and an adequate supply of VC have bolstered the acceptance of private equity by Irish entrepreneurs. McGuire says, "You can't grow a business organically anymore, because [the market] is moving too fast. If you don't get to market in 12 months, you are gone." Entrepreneurs now understand the value of VCs for both establishing a distribution network and capital development.

"The availability of VC for technology really took off in 1995 and has grown quite rapidly since then," states John Tracey, chief executive of Trinity Venture Capital. In March 2001, Trinity closed the largest technology fund ever raised in Ireland—$209.4 million.

A burgeoning VC market and an evolving mind-set, however, may not have been enough to generate a critical mass of indigenous Irish technology companies. "Success stories and role models are terribly important to have," Tracey says. These early icons are plentiful in the Irish landscape.

In 1983, three professors from Trinity College, in Dublin, came up with the idea behind Iona Technologies, a provider of integrated-infrastructure products. In 1991, Chris Horn, Annrai O'Toole, and Sean Baker founded Iona as a campus company and received minor funding from the EU. Enterprise Ireland—which separated from IDA to form a development agency exclusively for the needs of indigenous industry—provided a small amount of seed money at the beginning, but, for the most part, Iona bootstrapped the operation and spent the first two years consulting in order to stay afloat while it developed its product. In 1993, the company launched its product mainly in the United States, targeting defense contractors and large telecoms. In 1994, Sun Microsystems took an equity position in Iona, which it maintained

until Iona went public in 1997. Now aggressively pursuing a strategy of acquisitions, Iona has 1,000 employees and year-2000 revenue of $153 million.

Other icons include Parthus Technologies and Baltimore Technologies. Brian Long, founder and CEO of Parthus, had more than 18 years of experience in developing IP solutions for the semiconductor industry with AT&T and DEC before founding Dublin-based Parthus in 1993. Parthus designs chips for mobile phones and devices and started out working exclusively for STMicroelectronics. Profitable from day one, Parthus only garnered investments from STMicroelectronics and Enterprise Ireland. Barry Nolan, vice president of marketing at Parthus, cites a lack of venture capital, saying, "The government was actually the VC in principle. Enterprise Ireland is not known as a VC, but is actually one of the richest ones in Europe." Enterprise Ireland still holds a stake of approximately 6 percent in Parthus.

Baltimore Technologies, originally a campus company before it was acquired by Fran Rooney in 1996, provides e-security both as a managed service and through applications at the infrastructure level. Aidan Gallagher, executive vice president of marketing and development at Baltimore, also cites a well-coordinated plan by the government for the overall success of the electronics industry and explains that Irish people are well-suited to work in the IT industry because of a combination of creativity, good problem-solving skills, and a young mind-set. "The mind-set here would be far more in line with the Silicon Valley high-tech company approach than a conservative, stuffy, London Stock Exchange approach," he says. "We are halfway between being the pinstriped, conservative, dusty start-a-company, versus a dynamic, young, very aggressive U.S. company—a good blend of the two."

These icons are helping to create an entrepreneurial culture, and many established high-tech companies are now spinning out next-generation Irish technology companies, such as Cape Clear, which was started by senior executives from Iona in 1999. Many others have left Iona to start their own ventures. "The skills are the same. The difference now is the belief that you can do it," says Cape Clear's McGuire. To move forward, most companies agree that a better network among the business community must be developed.

Today, most major software providers have manufacturing or test facilities in Ireland.

Raising a Fund

Along with the development of an entrepreneurial culture comes the development or formalization of venture capital. While venture investing existed here before the mid-1990s, it came mainly from a few high–net worth individuals. Cross Atlantic, one of the largest, most active funds in Ireland, was started by McCrory in 1998. McCrory, discouraged by his efforts to raise capital in Dublin and London in 1996, says, "The VCs we spoke to didn't have a clue. One VC told me the Internet would never take off."

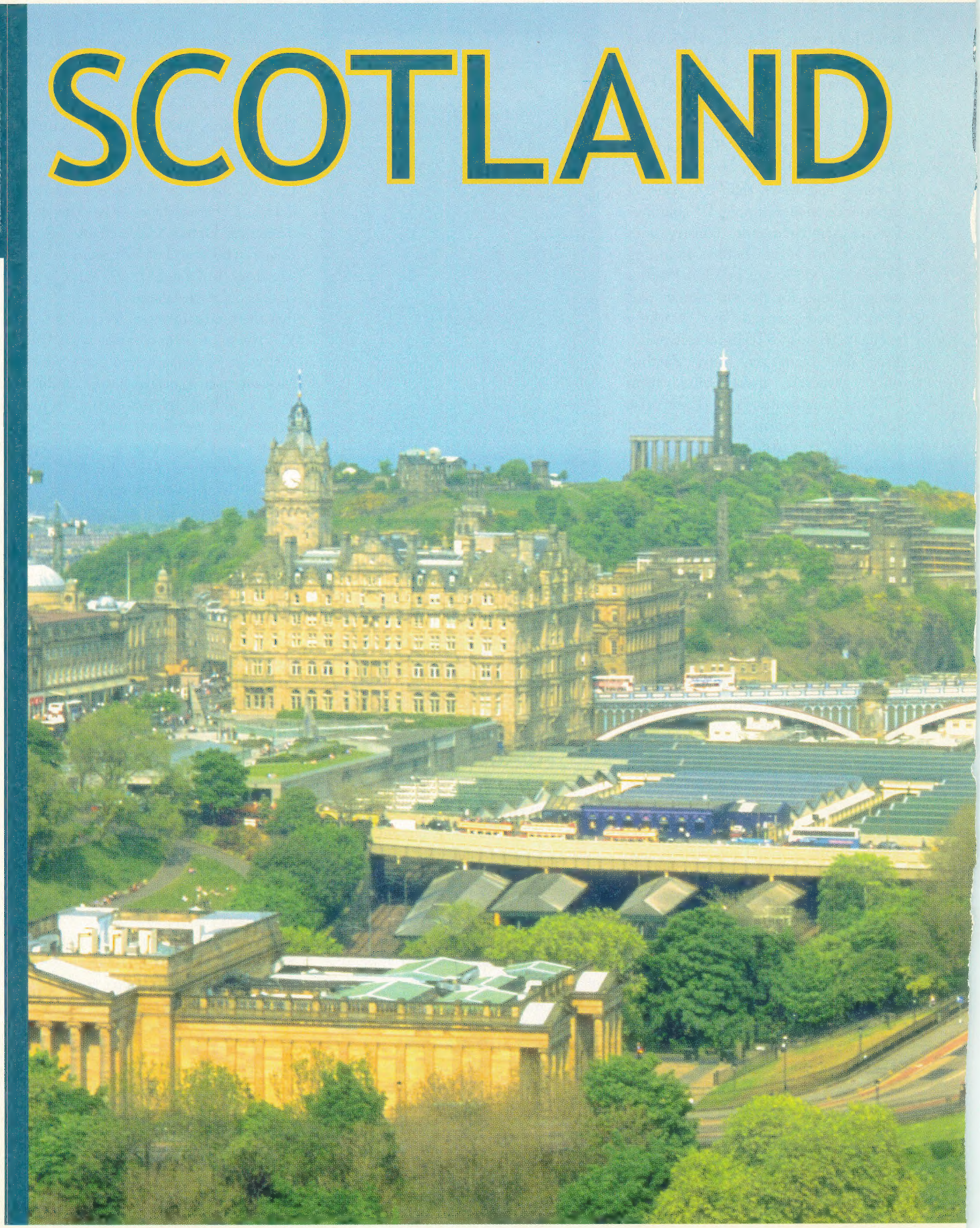
Soon after, McCrory started a doctoral program at the University of Cambridge, studying the commercialization of indigenous industry. Upon finishing his Ph.D., he sought to develop a new VC model in Ireland that would link an Irish seed fund—in this case, Crucible—to a U.S. VC firm. McCrory says, "To make it work as a seed fund, it had to be linked to a U.S. fund. The value add the U.S. VC brings to the table makes the difference." He sold his model to Safeguard Scientifics' Donald Caldwell and Glenn Rieger, who then left Safeguard to join McCrory. In March of 1999, the team launched Cross Atlantic. McCrory says that the fund's idea is to leverage a U.S. VC network to help commercialize Irish businesses. Crucible's seed fund, which McCrory also manages, has $15 million and is still in its first round. Cross Atlantic has two funds under management: the Cross Atlantic Technology Fund, which is $125 million, and CI-2000, which is $150 million.

Besides Cross Atlantic and Crucible, several funds now service indigenous growth, including Delta Partners, Act Venture Capital, and Trinity Venture Capital. "A good supply of venture capital, but not overcrowded," Trinity's Tracey says. U.S. and Asian funds have expressed interest, and, while U.S. VCs such as Lightspeed Venture Partners and Kleiner Perkins Caufield & Byers have made deals with Irish-based companies, they have yet to set up offices. McCrory believes that, when they do, they will service Ireland through the financial center of Europe: London.

Ireland's VC industry is still young compared with those of other parts of the world. "A lot of VCs are stuck in that early-stage to early middle–stage area. In the States, [it is] much more mature," McCrory says. This will take time and cooperation. Members of the Irish VC community are developing a stronger network both in the business community and among themselves in the areas of deal sharing and co-investment. "Two years ago, you wouldn't have spoken to another VC—told them about your deals. That attitude is changing for the better," McCrory concludes. ■

Kendra Wall is an associate editor at Upside.

SCOTLAND



Innovation in Silicon Glen moves up the value chain from manufacturing to higher-value R&D activity.

by Kendra Wall

photographs by Kendra Wall

The Scottish have always been great entrepreneurs, from the first mathematical description of electromagnetism by James Clerk Maxwell in the 1870s to the first cloned sheep, named Dolly, in 1997. The country's achievements also include such revolutionary medical accomplishments as the discovery of penicillin and the first use of ether and chloroform to relieve labor pain.

Modern Scotland is noted for heavy industry and manufacturing, including shipbuilding, coal mining, and steelmaking. However, some industries are in decline. Steelmakers, which employed 27,000 people in 1975—the majority of whom were based in the Lanarkshire area—only employ 270 people today, according to economic-development agency Scottish Enterprise. To offset this trend, Scotland is creating jobs with a New Economy focus by fostering the growth of its 300,000 indigenous businesses and moving away from low-value electronics manufacturing and toward higher-value R&D through foreign investment in large multinational companies.

Multinational Row

Ten-year-old Scottish Enterprise is the government's primary development vehicle. Its recognition of the global role of electronics helped it develop its strategy of targeting multinational companies. Today, Scotland's "Silicon Glen" stretches 90 miles between Glasgow and the capital city of Edinburgh and includes such market leaders as NEC, Compaq Computer, and IBM, which established a mainframe-manufacturing center there in 1951. IBM's June 2000 agreement with the Bank of Scotland to provide all IT services illustrates the trend of multinationals establishing higher-value operations in the country.

David Macdonald, director of Locate in Scotland—a joint operation between the government and Scottish Enterprise—points out that, while inward-investment deals are high-profile, they only account for 10 percent to 12 percent of Scottish Enterprise's network resources. "A healthy economy is not just about attracting lots of stuff in," he says. "A healthy economy needs to have its own companies growing to a level where they start trading and then internationalize."

Aiding indigenous industry has long been the government's responsibility. Scottish Enterprise focuses heavily on developing business, but Terry Currie, the director of small-business services at Scottish Enterprise, says, "The nature of the economy has changed. Ten years ago, we [focused] predominantly on the regeneration of old industrial areas." Now, with the help of the government and a growing VC market, technology-related businesses are making Scotland globally competitive.

With the most concentrated number of universities in the United Kingdom, Scotland has focused on the commercialization of academe's intellectual property and research. Scottish Enterprise's Proof of Concept Fund is used for early commercialization activity in universities and research institutions. The fund has made 44 investments, totaling £7 million in two rounds. Noting the fund's two-year history, Proof of Concept Fund Manager Eleanor Taylor says, "Venture investing is a new area for Scottish Enterprise." The fund also provides knowledge resources to graduating would-be entrepreneurs. Scottish Equity Partners (SEP) manages Scottish Enterprise's funds, including the $4.5 million Scottish Technology Fund and the University Challenge Funds.

The Cluster Approach

The government is also focusing on industry clusters that it has identified as having potential global value. A geographical center for indigenous and multinational companies was established to help create a critical mass of companies and attract and retain top talent.

The Alba Centre, funded by Scottish Enterprise, is the anchor of the semiconductor cluster and a unique collaboration among government, academe, and industry that is designed to respond to the growing demands of electronics-component design and development as well as emerging industry trends. The Alba Centre facilitates the growth of a highly skilled workforce within the electronics cluster by providing engineers continuing education and sponsorships. It houses the Institute for System Level Integration (ISLI), which offers the world's first master's degree in system-level integration. ISLI is a partnership between Europe's strongest electronics-design schools—University of Glasgow, University of Edinburgh, University of Strathclyde, and Heriot-Watt University—and Scottish Enterprise. The Alba Centre includes a microelectronics test center and offers test-engineering education. Graduate opportunities are plentiful within the electronics cluster, and industry giants such as Epson, Polaroid, and anchor tenant

Cadence Design Systems oversee the design activity.

Graduating to VC Investing

University- and cluster-generated research and technology will soon look to VC opportunities. New firms that invested in high-tech startups and early-stage ventures are growing quickly and achieving success. SEP, for example, launched in 2000 and has raised a $150 million fund, SEP II.

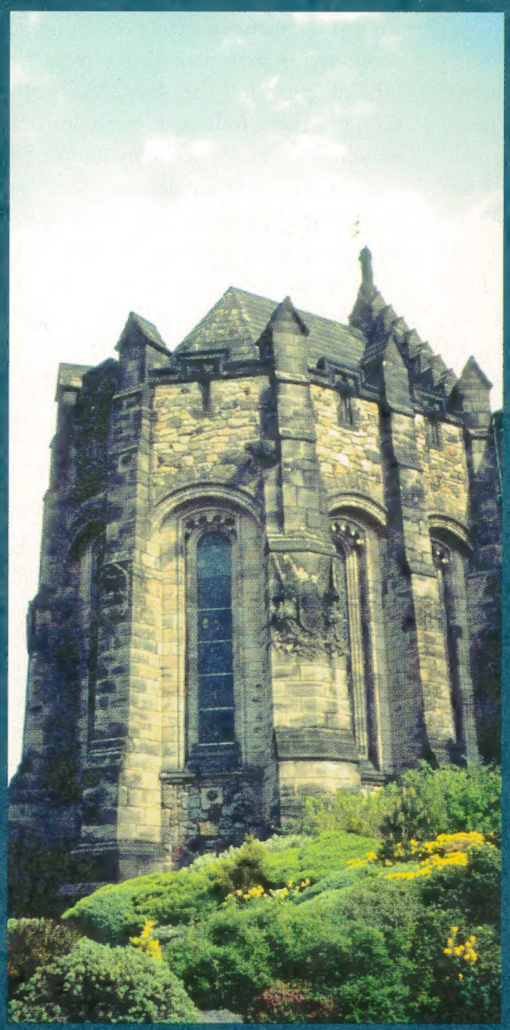
Locate in Scotland's Macdonald wants to see an increase in the number of U.S. funds and VC skills and approaches in Scotland. "U.S. VCs have different skills and different approaches; they will bring that knowledge into Scotland," he says.

Already investing from abroad, firms such as Lightspeed Venture Partners might be well served by expanding into the Scottish market. Many of the VC firms that dot the Scottish landscape are actually divisions of larger European VC firms, such as London-based 3i. Over the past five years, 3i has invested £150 million in early-stage Scottish tech startups; it has had a presence in Scotland for 30 years. "There are 5 to 10 high-quality opportunities every year," says Robin Marshall, technology group director at 3i.

Marshall notes that the climate is maturing and that today's entrepreneurs are more knowledgeable about VC funding requirements. Collaboration between the government and venture capitalists is becoming more prevalent, but it is still an area that needs improvement. "I would like to work more closely with [Scottish Enterprise]," Marshall says. "Building a sales and marketing workforce is something we could work together on, because they have a great global network that could complement 3i's network."

There is still work to be done, but, with government support and a strong VC community emerging, Scotland will likely follow Ireland as one of the strongest markets in Europe. ■

Kendra Wall is an associate editor at UPSIDE.



(Top) Guards at the entrance of Edinburgh Castle. (Left) The new chapel of Edinburgh Castle, the second most visited tourist attraction in the United Kingdom. (Below) Eleanor Taylor, fund manager of Scottish Enterprise's Proof of Concept Fund.